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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/731,600

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Michael T. Costello

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Benson Road
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EXAMINER

GOLOBOY, JAMES C

ART UNIT

PAPER NUMBER

1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/731,600

Applicant(s)

COSTELLO ET AL.

Examiner

James Goloboy

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All rejections except for those noted below have been overcome by applicant's amendment of 12/13/06. New grounds of rejection have been set forth.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claims 1, 12, and 19, as well as their dependent claims, require a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. However, the specification (page 7 lines 18-20, page 10 lines 7-10, and Tables 1-3), as originally filed, places a lower bound of about 0.001% per week on the sedimentation rate. The amended claims therefore encompass a broader range (a value less than about 0.001% per week sedimentation rate for at least 12 weeks, for

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example), than is originally described by the specification. Similarly, the specification does not describe a sedimentation rate of no more than 0.005% for an infinite period extending beyond 12 weeks, as recited in the amended claim. Therefore, the limitation is not considered to have patentable weight. The examiner recommends that the claims be amended to incorporate the lower bound of the sedimentation rate range supported in the specification, and limit the duration of the low sedimentation rate to 12 weeks.

Additionally, while the specification provides support for the sedimentation rate of the sulfonate within a lubricating oil composition, claims 1 and 19 are drawn, not to a lubricating oil composition, but rather to a different invention, an additive mixture.

5. Claims 1-11 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 19, along with their dependent claims, recite the limitation than an amorphous overbased alkaline earth metal sulfonate is present in an additive mixture in an amount sufficient to provide a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. As discussed above, the specification only provides support for the specification only provides support for the sedimentation rate of the sulfonate within a lubricating oil composition, not an additive mixture. Therefore, it is the examiner's position that applicant intends to claim that the sulfonate is present in the additive mixture in an amount sufficient to provide a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks *when the additive mixture has*

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been combined with a lubricating oil. In that case, the scope of the claim is indefinite, as the amount of sulfonate required to be present in the additive mixture to produce the desired sedimentation rate is dependent on the amount of additive mixture that is combined with the lubricating oil to produce the final composition and such an amount of the additive mixture is absent from the cited claims.

6. Two sets of rejections are set forth below. The first set of rejections applies if the limitations regarding sedimentation rate are not given weight. The second set of rejections apply if claims 1, 12, and 19 are amended to limit the sedimentation rate to between 0.001 and 0.005% per week at 70° C for at least 12 weeks.

Claim Rejections - 35 USC § 103 (Set 1)

7. Claims 1-4, 8, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke (U.S. Pat No. 4,995,993).

The discussion of Papay in view of Papke in paragraph 9 of the office action mailed 8/10/06 is incorporated here by reference and adequately sets forth the rejection of claim 13. Additionally, in column 4 lines 58-59 Papke discloses that the preferred amorphous calcium sulfonate product has a TBN of 400, falling within the ranges recited in claims 2-4 and 14. Papke provides additional examples of products with suitable TBNs in Table I, runs C and D.

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8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Watts.

The discussions of Papay in view of Papke in paragraph 7 above and Watts in paragraph 6 of the office action mailed 8/10/06 are incorporated here by reference. The addition of the PIBSA of Watts to the composition of Papay and Papke meets the limitations of claim 5.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Denis.

The discussions of Papay in view of Papke in paragraph 7 above and Denis in paragraph 5 of the office action mailed 8/10/06 are incorporated here by reference. The addition of the calcium carboxylate compound of Denis to the composition of Papay and Papke meets the limitations of claim 6.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4 and 13-15 above, and further in view of Ramey (U.S. PG Pub. No. 2004/0063589).

The discussions of Papay in view of Papke in paragraph 9 above and Papay in view of Ramey in paragraph 10 of the office action mailed 8/10/06 are incorporated here

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by reference. The use of the barium carboxylate friction modifier of Ramey in the composition of Papay and Papke meets the limitations of claim 7.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4 and 12-15 above, and further in view of Chladek (U.S. Pat. No. 3,754,684).

The discussions of Papay in view of Papke in paragraph 9 above and Papay in view of Chladek in paragraph 11 of the office action mailed 8/10/06 are incorporated here by reference. Storing the composition of Papay in view of Papke in a vessel, as taught by Chladek, satisfies the limitations of claim 19.

12. Claims 9, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Hartley (U.S. PG Pub. No. 2004/0180798).

The discussions of Papay in view of Papke in paragraph 9 above and Papay in view of Hartley in paragraph 12 of the office action mailed 8/10/06 are incorporated here by reference. Specifically, Hartley discloses the reaction products of triethanolamine with tall oil fatty acid or oleic acid as friction modifiers. Tall oil fatty acid also contains both oleic acid and stearic acid, and therefore its reaction product with triethanolamine includes the reaction product of triethanolamine with mixed oleic acid/stearic acid.

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13. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke and Chladek as applied to claim 19 above, and further in view of Hartley.

The discussions of Papay in view of Chladek and Hartley from paragraph 13 of the office action mailed 8/10/06 and of Papay in view of Papke from paragraph 9 above are incorporated here by reference. The claim has been amended to require the overbased calcium sulfonate to have a TBN of at least about 400. The use of the calcium sulfonate of Papke as the calcium sulfonate in the method of Papay, Chladek, and Hartley meets the limitations of claim 20.

14. Claims 10-11 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 2-4 and 13-14 above, and further in view of Calhoun (U.S. Pat. No. 3,198,737).

The discussions of Papay in view of Papke in paragraph 9 above and Papay in view of Calhoun in paragraph 14 of the office action mailed 8/10/06 are incorporated here by reference. The use of the friction modifiers taught by Calhoun in the composition of Papay in view of Papke meets the conditions of claims 10-11 and 17-18.

Claim Rejections - 35 USC § 103 (Set 2)

15. Claims 1-4, 8, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke.

The discussion of Papay in view of Papke in paragraph 9 of the office action mailed 8/10/06 is incorporated here by reference.

Claims 1 and 12 recite the functional limitation of an amorphous overbased alkaline earth metal sulfonate present in a composition in an amount sufficient to provide a sedimentation rate of no more than about 0.005% per week at 70° C for at least 12 weeks. The specification has been referred to solely in an attempt to ascertain the scope of this limitation, specifically what amount of which type of alkaline earth metal sulfonate constitutes a "sufficient" amount.

In all of the examples from the specification where reduced sedimentation is observed (examples 5-8, 13-16, and 23-28), the amorphous overbased alkaline earth metal sulfonate is calcium sulfonate, present in an amount of 10% by weight of the composition. Therefore, a lubricant composition comprising 10% by weight of amorphous overbased calcium sulfonate will meet the functional limitation of a "sufficient amount" of an amorphous overbased alkaline earth metal sulfonate in claims 1 and 12.

The composition of Papay and Papke comprises an amorphous calcium sulfonate. In the table in column 50 lines 12-15, Papay discloses that a preferred concentration for an overbased detergent (component a) in a lubricant composition is between 0.01 and 10% by weight, with the 10% endpoint matching the 10% sufficient to provide the required sedimentation rate.

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Watts.

The discussions of Papay in view of Papke in paragraph 15 above and Watts in paragraph 6 of the office action mailed 8/10/06 are incorporated here by reference. The addition of the PIBSA of Watts to the composition of Papay and Papke meets the limitations of claim 5.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Denis.

The discussions of Papay in view of Papke in paragraph 15 above and Denis in paragraph 5 of the office action mailed 8/10/06 are incorporated here by reference. The addition of the calcium carboxylate compound of Denis to the composition of Papay and Papke meets the limitations of claim 6.

18. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Ramey (U.S. PG Pub. No. 2004/0063589).

The discussions of Papay in view of Papke in paragraph 15 above and Papay in view of Ramey in paragraph 10 of the office action mailed 8/10/06 are incorporated here by reference. The use of the barium carboxylate friction modifier of Ramey in the composition of Papay and Papke meets the limitations of claim 7.

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19. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Chladek (U.S. Pat. No. 3,754,684).

The discussions of Papay in view of Papke in paragraph 12 above and Papay in view of Chladek in paragraph 11 of the office action mailed 8/10/06 are incorporated here by reference. Storing the composition of Papay in view of Papke in a vessel, as taught by Chladek, satisfies the limitations of claim 19.

20. Claims 9, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Hartley (U.S. PG Pub. No. 2004/0180798).

The discussions of Papay in view of Papke in paragraph 15 above and Papay in view of Hartley in paragraph 12 of the office action mailed 8/10/06 are incorporated here by reference. Specifically, Hartley discloses the reaction products of triethanolamine with tall oil fatty acid or oleic acid as friction modifiers. Tall oil fatty acid also contains both oleic acid and stearic acid, and therefore its reaction product with triethanolamine includes the reaction product of triethanolamine with mixed oleic acid/stearic acid.

21. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke and Chladek as applied to claim 19 above, and further in view of Hartley.

The discussions of Papay in view of Chladek and Hartley from paragraph 13 of the office action mailed 8/10/06 and of Papay in view of Papke from paragraph 15

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above are incorporated here by reference. The claim has been amended to require the overbased calcium sulfonate to have a TBN of at least about 400. The use of the calcium sulfonate of Papke as the calcium sulfonate in the method of Papay, Chladek, and Hartley meets the limitations of claim 20.

22. Claims 10-11 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papay in view of Papke as applied to claims 1-4, 8, and 12-15 above, and further in view of Calhoun (U.S. Pat. No. 3,198,737).

The discussions of Papay in view of Papke in paragraph 15 above and Papay in view of Calhoun in paragraph 14 of the office action mailed 8/10/06 are incorporated here by reference. The use of the friction modifiers taught by Calhoun in the composition of Papay in view of Papke meets the conditions of claims 10-11 and 17-18.

Response to Arguments

23. Applicant's arguments filed 12/13/06 have been fully considered but they are not persuasive.

Applicant argues that the additive mixtures of claims 9 and 21 are nonobvious due to unexpected results, specifically a low sedimentation rate when certain fatty acids are used to make the friction modifier. This argument is faulty for two reasons. First, the results shown in Examples 59-74 and Table 7 of the specification are not commensurate with the scope of the claims. Examples 59-74 use a lubricant composition comprising 10% by weight of a crystalline overbased calcium sulfonate and

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0.5% by weight of a friction modifier. Claims 9 is much broader, encompassing compositions comprising any amount of any overbased alkaline earth metal sulfonate, and any amount of friction modifier. Claim 21 also allows for any amount of overbased sulfonate and friction modifier, and in fact requires an amorphous overbased calcium sulfonate, thus explicitly excluding the crystalline species with which the alleged unexpected results were obtained. Second, it is not unexpected that there are slight differences in the results obtained with different fatty acids due to differences in chain length and degree of saturation, and the difference between the 0.20% sedimentation rate obtained with mixed oleic/stearic acids, as recited in claim 9, and the 0.35% obtained with erucic acid, is hardly substantial enough to be unexpected, especially when compared with the sedimentation rates of over 1% obtained when other fatty acids are used to prepare the friction modifier.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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